

AMERICAN VETERINARY REVIEW,

NOVEMBER, 1887.

EDITORIAL.

VETERINARY LEGISLATION.—Our columns always open to scientific subjects and questions of professional importance—closed to personalities. **BACTERIOLOGY, HOG CHOLERA AND TEXAS FEVER.**—How specialists are born—the labor required to become a specialist—the feelings of hostility that may arise—difficulties in the way of agreement—opportunities for disagreement—Drs. Billings and Salmon as investigators—their labors in hog cholera—Dr. Billings' just claim to priority—his last discovery in Texas fever—his letter—one is well, but why challenge all around—a call for another *Pouilly Lefort* experiment. **VACCINATION IN ANTHRAX.**—Director Nocard's statistics—their weight and their significance—why don't we try them? **DR. SALMON ON PLEURO-PNEUMONIA.**—A call, not for support only, but to guard against too much confidence in what has so successfully been already done—his staff in New York—slow work, but sure, we hope—Dr. S's letter from the *Breeder's Gazette*. **FALSE FEATHERS.**—That which broke the camel's back—an imposter exposed—we are ready to keep doing it, as a protection to the dignity of our profession. **THE ARMY VETERINARIANS.**—Of course, the United States Veterinary Medical Association missed a good opportunity—Dr. O. Schwartzkopf on army veterinarians at home and abroad—his suggestions and conclusions. **UNITED STATES VETERINARY SANITARY ASSOCIATION.**—Its third meeting in Kansas City.

VETERINARY LEGISLATION.—It has been our desire, since engaging in the publication of the *REVIEW*, to extend the freest welcome to and encourage the largest liberty by our correspondents in the discussion of questions of veterinary science and practice, and we have always been glad to give currency to the views and experiences of our brethren in the profession. But it has been equally our aim and desire to guard our magazine against becom-

ing a medium for the expression of private pique or a channel for the circulation of offensive personalities. It is, therefore, with great regret that we refer to the insertion in our last number—in which it found its way by some inexplicable inadvertence—of a communication in which our rule in the latter regard is obviously violated.

We wish to say, further, that inasmuch as the discussion of the subject of veterinary legislation seems to have become more a question of personal feeling and motive than of the general interests of the profession, we feel constrained for the present to close our columns against any further communications having that for their topic.

BACTERIOLOGY, HOG CHOLERA AND TEXAS FEVER.—All the sciences have attractions for the seekers after knowledge, and each, separately, possesses some characteristic features which, in the view of the student who resolves upon the mastery of its details, confers upon it a special interest and a claim to peculiar and paramount consideration. Thus, in the view of the anatomist, there is no department of medical study possessing an interest or fascination comparable to that of animal structure; and a similar claim comes from the pathologist, the surgeon and the obstetrician, each claiming for his favorite specialty the place of foremost value and concern. It is to this trait of human character that the existence of specialties in medical science and the prominence sometimes acquired by specialists in medical study and practice must be ascribed, and among these, preëminently, the experimentalists and others who occupy the field of biology and bacteriology. The difficulties encountered and the obstacles to be overcome in securing anything like the mastery of the matters included in the investigations involved in this line of inquiry, joined to the zealous and enthusiastic temperament pre-supposed as characterizing the ardent and earnest workers among the intricacies and obscurities of such subjects, have naturally generated amongst them no small degree of jealousy, and an amount of competitive intolerance quite beyond the bounds of philosophic calmness and scholastic fairness. The feelings of hostility which have

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been generated among those who should rather become brother scientists than disputatious antagonists cannot prove otherwise than detrimental to the interests they are all presumably anxious to promote. For if the views of each are discredited by a rival, why may not the entire sum of their theories and experiments be discredited by some third objecting party? Such a reflection naturally arises from a view of the discrepancies noticeable in the published views of some of the most able and eminent observers in veterinary science on this side of the Atlantic, in reference, most especially, to the etiology of hog cholera.

We have made room, quite as liberally as the limitations of our space will allow, to such communications on this subject as we have been able to obtain from the pens of Dr. Billings and Dr. Salmon, and the long series of articles contributed by these gentlemen must now be familiar to our readers. Though they are indefatigable investigators, they have still, so far as we have been able to gather from the writings of Dr. Billings, quite failed to agree upon the point of the true origin of that disease; if, indeed, their disagreement be not rather upon the question of priority of discovery. Dr. Billings, while giving due credit to Dr. Detmers, who from lack of proper instruments was unable positively to realize the nature of his discovery, claims for himself, and we believe rightly, and to his researches, the position of first discoverer. The papers to this effect have already appeared in the REVIEW and due credit must be given to him for his work. The position may need confirmation and others may come forward to corroborate it in the same manner. And now it appears that the Doctor's energy and enthusiasm are not yet satisfied by this first success in relation to hog cholera. We have just received from him a letter in which he claims a second discovery of no less importance in a scientific view. The true nature of Texas fever, in the opinion of Dr. Billings, is no longer a mystery. He writes thus:

LINCOLN, Neb., Septt. 16, 1887.

Editor of American Veterinary Review, New York City:

MY DEAR SIR—Herewith I desire to announce to the veterinary and medical profession the first discovery of the germ of Texas or Southern cattle fever. It is a bacterium so closely resembling that of swine plague (hog cholera) that it

cannot be differentiated from it under the microscope. I have found it in an absolutely pure condition in the blood, bile and tissues of organs of cattle that have died from the disease. In fact I have proved its specific nature in every way.

1. Its presence in the tissues of cattle diseased with Texas fever, killed a few hours before death.

2. By pure cultivations from those same tissues.

3. Its pathogenetic action on ground squirrels, which it kills in forty-eight hours.

4. By inducing Texas fever in cattle, and the demonstration of the same germs again in their tissues, and by cultures from the same.

I have said that it cannot be distinguished from the germ of hog cholera under the microscope, nor by its growth on agar-agar, or in bouillon, but on potatoes it at once differentiates itself, being of a delicate straw color, while that of hog cholera grows with a sort of coffee-drab color—a friend suggests the term of “boarding-house coffee” as the most descriptive. In gelatine I cannot yet test it, as my rooms are still too warm.

That this is the first discovery of this germ is shown by a glance at the literature. Detmers has found a bacillus. See Report of Department of Agriculture, 1884, p. 431, and that of 1880-’81, p. 296, w plate.

Salmon describes a “*diplococcus*,”—see report of 1883—that it has a “figure 8 form” and “without any power of movement,” p. 35.

This germ is not a “*diplococcus*,” it has not a “figure 8 form,” and it has independent movement, as has that of hog cholera. A fuller description of this germ will follow in due time.

I remain, sir, yours very truly,

FRANK S. BILLINGS,

Director Patho-Biological Laboratory, State University, Lincoln, Neb.

While we take great pleasure in publicly acknowledging our appreciation both of our correspondent's work and that of his antagonist, we cannot help profoundly regretting the hostile disposition which has been generated in the course of their investigations, and especially that this antagonism should have gone so far as to have culminated in public challenges, issued through the daily press, by which public discussions are called for, in which the confirmation of their opposing views is to be sought for from a tribunal composed of men who know nothing of the subject. We are sure that this is a wrong way to discover truth, and one that can result in no profit either to the common welfare or to the subject in question. And an exchange brings us information of another emente, in which the alleged discovery of a vaccine is placed in doubt and a public demonstration asked for. All this may be well in a sense, and no doubt it devolves on Dr. Billings

to substantiate his statement by a large experimentation, and no doubt make a new edition of *Pouilly Lefort* experiments by Pasteur, when his discovery of the vaccine for anthrax was mistrusted and denied.

VACCINATION IN ANTHRAX.—Speaking of this experiment, and referring to the advantages following the employment of vaccination against anthrax, Professor Nocard, in his chronic of the *Recueil de Medecine Veterinaire*, publishes a statistical table of the vaccinations practiced since 1881, both in France and in foreign countries, with the vaccine prepared at the Pasteur laboratory. The animals thus treated were, by his showing:

	Sheep.	Cattle.	Horses.
1881.....	74,551	7,231	242
1882.....	306,870	41,823	2,025
1883.....	335,330	32,230	1,346
1884.....	361,198	40,500	384
1885.....	401,625	41,982	1,298
1886.....	367,208	47,229	47,229

The result, ascertained and stated by competent authority in respect to more than one-half of the animals which had been treated, was a reduction of mortality in sheep from 8 to 10 per cent. before to less than 1 per cent. after vaccination, and in cattle from 5 per cent. to one-half of 1 per cent. The force of these irresistible facts ought to be more than sufficient to carry a conviction to every mind of the preventive value of the application of the plan of inoculation in bacteridian anthrax. The evidence already obtained in cases of the bacterian form of the disease is quite as strong. Will our veterinarians and our breeders ever learn the wisdom of putting it into practice in the United States?

DR. SALMON ON PLEURO-PNEUMONIA.—We copy in this number a letter from Dr. Salmon, the accomplished chief of the Bureau of Animal Industry, in relation to the progress of the work undertaken for the suppression of pleuro-pneumonia in the United States. The appeal of Dr. S. is a proper one, and the reasons he urges in its support are as forcibly stated as they are pertinent to the occasion. It is quite true that much has been done, but it is equally true that much still remains to be done.

The first appropriation of funds made by Congress seemed to be liberally large, but as the undertaking progresses, and looms up larger and larger, and continues to assume still increasing dimensions, it becomes more and more difficult to determine a limit for the final cost of the great and necessary enterprise. The officers of the Bureau of Animal Industry have now removed their quarters to the city of New York, which thus becomes a new centre from which to direct their widely extended operations, a step which will probably test their pecuniary resources to an extent beyond anything they have experienced in the past. Perhaps it is for this reason that the work of stamping out the disease has not yet been earnestly inaugurated in the metropolis and the circumjacent territory, where the disease has, to an indefinite extent, prevailed for years, but will now, doubtless, soon be subjected to a course of rigid inspection and vigorous attack. The active supervision of Dr. Wray, the chief executive officer, will soon declare itself, and it is certain that it will not be long before we shall hear news of active operations and their results. But our people and our Legislature, and the national Congress especially, must not be allowed to believe that what has already been granted is nearly sufficient. Pleuro-pneumonia *can be* stamped out from its old birth-place, and afterwards from the districts which have subsequently become infected. The practicability of this is easily demonstrated, but the indispensable condition is always present. Whatever the ordnance may be, money is the only available ammunition. Good veterinarians, willing to become faithful servants, are waiting for the opportunity to assist in the work, but their principal weapon of aggressive attack must not be withheld. Money must be forthcoming, we repeat, or the whole undertaking will abort. Of course there is no danger of its final abandonment, but it should be borne in mind that if only half done, and rallying time is allowed between the attacks, the expenditure will be certainly enhanced in the end. Spasmodic and occasional assaults will be of small account. Congress should be importuned and urged to *provide the ammunition* freely, if the good fight is to be pressed on to final victory. The following is the letter of Dr. Salmon, as printed in the *Breeders' Gazette*:

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THE POSITION OF THE PLEURO-PNEUMONIA STRUGGLE.

To the Gazette:

The time has not yet come when those interested in the complete extirpation of pleuro-pneumonia from this country can suspend their exertions with the assurance that the achievement of this end is only a question of time. It is true that a great advance has been accomplished within the last year. For the first time an adequate appropriation has been made for this work, and authority has been granted to use this appropriation for slaughtering both diseased and exposed animals. The States in which pleuro-pneumonia exists have nearly all supplemented the National law by legislative enactments and by executive orders to such an extent as to make it possible to do effective work within their borders. This is notably true of the worst infected States.

The field work has been equally encouraging. Cook County, Ill., though more extensively infected than many people supposed, has been nearly freed from the contagion by the energetic and thorough measures adopted and enforced by Prof. Law with the co-operation of the State Live-Stock Commission. Maryland, for a long time one of the chief fountain-heads of the plague, has also been nearly freed from it by the active work of Dr. Wray and his assistants, with the earnest support of the Maryland Live-Stock Commission. New Jersey is in better condition than she has been for a long time, and New York State, outside of the great seaboard cities, is being rapidly freed from the contagion.

This is all very encouraging, but the work evidently was begun none too soon. The cases which were discovered last winter and spring in Boston show that already cattle were being run out of the infected district in Cook County before a thorough quarantine was established. The extensive outbreaks in the interior counties of Washington and Delaware, in the State of New York, which have recently been suppressed, demonstrate that the conditions favoring the dissemination of this disease have recently been rapidly increasing.

These facts are mentioned to emphasize the necessity that every stockman in the land should give his earnest support to the Bureau of Animal Industry in the desperate efforts that are required to stamp out this plague from its breeding places in our country. Neither a hundred nor a thousand men are sufficient to police this country so as to unerringly discover in their first stages the fresh outbreaks of our enemy. In both Washington and Delaware Counties considerable headway had been gained before the trouble was brought to the notice of the Bureau. I desire to press upon your readers, therefore, the necessity of reporting promptly the existence of any acute lung disease of cattle which attacks more than one animal in a herd.

A few days ago a gentleman of great experience in public life, and well known because of his labors in behalf of our agriculturists, remarked to me that he considered the effort to wipe out pleuro-pneumonia at once and for all time from this continent to be one of the grandest undertakings of the age. No doubt this estimate of the work is correct, and it is very certain that if successful it may be placed at the head of the works inaugurated in this country for the benefit of our farmers. But if it should fail from insufficient support, what a blot this would be upon the foresight and intelligence of our people!

Unfortunately there appear to be people in this country who consider it their mission to fight against the suppression of pleuro-pneumonia; who are so anxious to secure the preservation of this plague among our cattle that they have adopted the most disreputable methods of warfare in its favor. Misrepresentation and denial of well-attested facts, and the abuse of every one connected with the service, has been carried to such an extent and repeated so often that many of our farmers have been persuaded that a great fraud is being practiced upon them, and that no contagious pleuro-pneumonia exists in the country. Instead of recognizing the Bureau of Animal Industry as a friend, established at the request of stock-owners and for their benefit, such people have come to look upon it as an enemy preying upon their property. Nor can we forget that the agricultural editors of some of our great weekly newspapers, and the writers for some of our distinctly agricultural journals, are so blinded by jealousy, prejudice, and ignorance that week after week their columns are loaded with matter designed to obstruct this work undertaken for the benefit of the very class of our people with which they pretend to be in sympathy.

These facts must be borne in mind and this influence must be counteracted by those intelligent stockmen and writers who know the truth. The sympathy and support of our farmers are essential to the success of this work: but those of us who are engaged in hunting out this disease and in devising measures for hemming it in, and then stamping it out, have no time to explain the truth or deny the falsehoods.

No one expected that the present appropriation would be sufficient to eradicate pleuro-pneumonia from this country. A great deal has been done, however, and very much more will be accomplished before the end of the year. But the work must not stop with this year if success is to be attained. The worst infected center, and that the most difficult to deal with, is yet to be attacked. If the plague is entirely eradicated in two years or even three it will be better work than any other country can show.

Our beginning has been most promising, but the friends of this work should not forget that the needed amendments to the animal-industry law failed to pass at the last session of Congress, nor should they forget the opposition in that body engendered by the distorted statements and other influences of those who have fought pleuro-pneumonia legislation from the time it was first suggested. These amendments are needed this winter, as is also the authority to continue the work of extirpation during the next fiscal year. With the assistance of those who are most interested, namely, the farmers and cattlemen of the United States, there will be no difficulty in obtaining from Congress any necessary legislation; but if the stock-owners do not make their desires known to their representatives Congress can hardly be blamed for neglecting even this important question.

Washington, D. C.

D. E. SALMON.

FALSE FEATHERS.—It is only within a comparatively recent period that the qualifications of persons alleging themselves to be competent to practice veterinary science were subjected to anything like a critical scrutiny on the part of the public. This

was due to the circumstance that any man was a horse doctor who chose so to denominate himself, and there were no veterinary schools in the country really possessing an established title to public recognition.

That time is past. Since then, colleges of veterinary science have been established in the United States, which by the honesty and thoroughness of their work have made for themselves a reputation and a credit as strongly established as they were honorably acquired, and a name and recognition not at home, merely, but among the older institutions of Europe. And there has been no failure on the part of their graduates in readily compelling the confidence of a discerning public by testing to the full their proficiency and their knowledge in the calling they have chosen. The extent of our broad territory has been no bar to the diffusion of the influence exercised by these institutions, and the success of their graduates in winning renown and the rewards of skill and faithfulness, has been reflected upon them until their name and fame have become familiarly known throughout the land. No one will be surprised, therefore, to learn that mendacious persons are to be found who have availed themselves of this circumstance, and falsely claiming these institutions for their alma mater, have traded upon their repute to impose upon the public with spurious claims. Under these circumstances, it seems to become the obvious duty of those who have it in their power to do so, to warn and guard a cheated public against such disgraceful impostures and unscrupulous misrepresentations.

With the design of aiding in the exposure of these deceptions, we began the publication some time ago, and design to continue it yearly, of the names of the *regular* graduates of all the veterinary schools on the continent, as we find them *officially* published by their officers. We are sorry to say that our object has not been fully accomplished, and that impostors claiming to be graduates are still occasionally making their appearance in various parts of the country, robbing the people of their good money and often injuring, by their absurd treatment and worthless nostrums, valuable animals whose lives and services, but for such quackery, might have been longer continued to their owners.

The title of one of the oldest veterinary schools of the country, enjoying as it does a national reputation (the American Veterinary College), has often been thus stolen and misappropriated, the last case of this kind being brought to our notice by the following business card, which was forwarded to us by a Minnesota practitioner :

Graduate of the American Veterinary College N. Y. City.

THE FAMOUS

VETERINARY

SURGEON AND PRACTITIONER *

Among the Equine Aristocrats of the Northwest.

DR. HIRAM A. KENNEDY

Is without a doubt the most Popular and Scientific Veterinary * Physician and Surgeon now on on * record. His success in the practice * of Medicine among the Domestic Animals excels * all Practitioners we ever saw. It affords us much pleasure to recommend the Doctor to all who desire his services.

P. S. Reserve for future reference.

Address Minneapolis, Minn

Office at 588 6th Ave. N.

S. N. BRALEY, M. D. & V. S. Washington, D. C.

JOHN HAYES, M. D. & V. S. Detroit, Mich.

PROF. JOHN WILSON, Ann Arbor, Mich.

A. E. COX, Ausin, * Minn.

CHAS. H. COATS, * Austin : Minn.

We can suggest but one mode of correcting this evil. Let every practitioner who becomes acquainted with facts of this kind address to us a letter of inquiry as to the true graduation of the claimant, and if it is proved that the claim is a false one, let the culprit be made to feel the weight of the laws designed for the punishment of guilt. That a non-graduate should work and earn his living in a professional manner, may perhaps be tolerated, but that an imposter, covered with the lion's skin and at the same time showing his ears, should be permitted to impose on the public, and at once disgrace a noble profession and discredit a reputable institution, is something that no honest man

* Credit is due some *graduate* for the orthography in this card. We are not entitled to it.

can sanction by his silence, of whatsoever school he may be a graduate.

The "famous Veterinary, Hiram A. Kennedy, Surgeon and Practitioner," is an impostor, and we shall feel it to be our duty to say publicly as much of any other man who sees fit to assume a title to which he has no claim.

THE ARMY VETERINARIANS.—The failure of the last meeting of the United States Veterinary Medical Association is a circumstance to be truly regretted, especially in view of the loss of the valuable papers prepared for it, that failed to see the light.

Amongst those which remained on the table of the Secretary was one on the "Necessity of an Organized and Elevated Veterinary Medical Corps in the United States Army," by O. Schwarzkopff, D.V.M., Junior Veterinary Surgeon, 8th U. S. Cavalry.

The paper is too voluminous for publication entire, and we can give it but a brief reference. A few remarks upon the general condition of the veterinary department in the army of the United States is followed by a long examination of the same department in the armies of the various countries of Europe. Those of England, France, Germany, Italy and Russia are successively brought into comparison, and the opinions of many commanding officers of the American Army are quoted as suggestive of the necessity of reform in ours. The paper concludes with suggestions as to the proper organization of this, thus far, neglected department of our own army.

The subject of veterinary army reform has always found hospitality in our pages, whatever suggestions our correspondents may have had to offer having been always laid before our readers. The project of Dr. Schwarzkopff commends itself to us, therefore, through our general sympathy with the subject, and for this reason alone, if for no other, we would give it place. But aside from this, the fact of his being an old army veterinarian abroad, and of having also been engaged in the American service for some length of time, should give additional weight to his suggestions, as being the fruit of much and varied experience. They should therefore commend themselves to the serious consideration

of those to whom his report is addressed, as well as to that of veterinarians of the country generally.

The important suggestions and conclusions of Dr. Schwartzkopff vary materially from those of the bill which we understand is to be laid before Congress at the recommendation of the United States Veterinary Medical Association. They read as follows :

Organization of a Separate Veterinary Medical Department, attached for administration to the Medical Department of the Army.

There should be three grades of Army Veterinary Surgeons. In view of the fact that these veterinary surgeons have to provide their own education, their ranks should consist of the following grades :

1st. First Lieutenant (mounted).

2d. Captain (mounted), after ten years' service, having passed an examination for promotion.

In each department one Veterinary Captain should be selected by the Secretary of War, as Inspector of Public Animals, and attached to the Department Staff.

3d. Major (mounted). One Chief of the Veterinary Department, attached to the Surgeon-General's office. This officer should be selected from the Army Veterinary Surgeons (or from civil life at the commencement) with the greatest care and with such qualifications as a distinguished professional reputation and long experience, as he will be responsible for all the duties performed by the Veterinary Department. He will report to the Surgeon-General, Quartermaster-General or Adjutant-General of the Army, as the case may be.

The number of Army Veterinarians should be thirty, including all grades.

To all Boards convened for the purpose of purchasing and condemning public animals and for decisions as regards the hygienic care of public animals (examination of forage, etc.), a Veterinary Surgeon should be admitted as a member. * * * *

UNITED STATES VETERINARY SANITARY ASSOCIATION.—The National Convention of the Consolidated Cattle and Horse Growers' Association of the United States is to meet on the 31st of October, in Kansas City. The United States Veterinary Sanitary Association will hold their annual meeting on the same day in the same city. Members of Veterinary Sanitary Commissions, members of Boards of Health and officers of Veterinary Colleges, and veterinarians in general, have been invited to attend. Much good may be accomplished by these gatherings, and we hope to be able to present our readers, in our next number, with an interesting report of the work that will have been performed.

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The worthy Secretary, Dr. Paquin, will of course remember us in making up his record.

EXTENSIVE OUTBREAK OF GLANDERS IN MASSACHUSETTS.—An outbreak of this disease amongst the horses in Cambridge, Mass., is reported. A large horse establishment has had some 169 animals quarantined by the Cattle Commissioners, and the officers of the road are now fighting against this action, which was taken, we understand, at the suggestion of Dr. F. Winchester and Dr. Stockbridge, both members of the commission. Drs. Lyman, Harrison and Bryden have been called in, in the interest of the horse owners, to dispute the diagnosis of Dr. Winchester, and a difference of opinion has of course been the result; Dr. Bryden and his colleagues, if not altogether denying the existence of the disease, at least questioning the extent of its prevalence, and arguing against the propriety of withdrawing so large a number of horses from their work and consigning them to threatened and possible slaughter. The question is, of course, one of importance.

A suggestion has been made of obtaining expert opinions from veterinarians of New York and Philadelphia, in order to solve the matter satisfactorily.

It seems to us that much more is made of the whole subject than it deserves. While glanders is sometimes very difficult to diagnosticate in a *positive* manner, the fact that the disease exists in even the small number admitted by the dissenting veterinarians ought to be sufficient to justify the most positive and severe sanitary precautions, without reference to the amount of inconvenience it might devolve upon the owners of the road.

PROF. LAW IN MARYLAND.—Prof. Law, who has so handsomely succeeded in stamping out plure-pneumonia in Cook Co., Ill., has been requested by the Department of Agriculture to transfer his operations to a new field, no less infected with the disease. He is now engaged in Maryland where we soon will hear of the good results of his energetic work.

ORIGINAL ARTICLES.

MALADIE DU COIT.

BY J. D. HOPKINS, D.V.S.

[Extract from his Report to the Stock Growers' Association.]

CHEYENNE, WYO., Sept. 12, 1887.

HON. THOS. MOONLIGHT, *Governor of Wyoming*:

Sir:—I received your telegram at Chadron, Nebraska, on the 18th of August, directing me to proceed to Illinois and investigate the reports of disease said to prevail among the horses near Bloomington, Illinois, and I herewith submit the following report for your consideration:

On arriving in Chicago I called on the Live Stock Commissioners of Illinois, who furnished me with a letter of introduction to Dr. Williams, of Bloomington, the veterinarian in charge of the infected animals in McLean and De Witt counties, also directing him to give me every facility in the examination of sick horses. This gentleman gave me much valuable information in regard to the spread of *maladie du coit* among the horses of De Witt County.

Dr. Williams has, by order of the Live Stock Commission, quarantined nearly 200 mares and nine stallions suffering with or exposed to the contagion. About forty mares and two stallions have died of the disease.

The mares are generally large draft animals of no pronounced breed, owned by farmers in bunches of from two to six head, and in addition to their usual farm work are expected to carry a foal each year; while the stallions are all thoroughbred Norman Percheron stock imported from France. These stallions are kept by the importers for sale, and advertised to stand for service during the breeding season at prominent towns.

This strange disease first attracted attention during the breeding season of 1885, and as the cool weather approached it seemed to die out. In 1886 it again appeared, and Mr. C. C. Culbertson, an importer of Percheron stallions, having some animals af-

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fectured with the disease, and many of his neighbors' mares becoming infected through his horses, and other stallions standing in the county, called a number of veterinarians to investigate.

This disease presented strange characteristics to the medical gentlemen called in, and it was only after considerable study into its peculiarities, and a large number of cases developing the same symptoms, that a diagnosis was made. Dr. Williams has demonstrated that the disease is *maladie du coit*, another of the plagues of Asia which has been known in the different countries of Europe for the past century, and is spread from one country to another through the importation of animals from infected localities.

It is a matter of fact, that many prominent veterinarians have repeatedly warned the people and legislators of the value and necessity of the enforcement of sanitary laws compelling inspection of all importations of horses from countries where *maladie du coit* prevails. Now this dread plague has gained a foothold among the horses of one of our best horse growing States, and the probability is that the disease will be widely spread.

I am informed by credible horsemen of De Witt County that previous to a knowledge of the character of the disease, stallions have been shipped to different parts of the country, and that since the peculiarities of the malady are known, information has been sent to such parties, so that the infection may be limited.

The origin of *maladie du coit* in Illinois is unknown; it has existed so long that it is impossible to tell what importation brought it into the country. At present the disease is believed to be confined to Percheron stallions and the mares of De Witt County. Wide publicity has been given to the existence of *maladie du coit* in this country, and it is to be hoped, should any venereal disease develop among the breeding horses in any State, that the owners will at once quarantine the animals until an investigation by competent veterinarians.

Maladie du coit could only gain an entrance into the United States through the importation of an animal (stallion or mare) actually suffering with the disease, from an infected country

The Live Stock Commission of Illinois are making every effort to discover what animal introduced the disease. But the lapse of time since its introduction, the constant change in ownership of horses, and perhaps the interested motives of those engaged in horse traffic, renders it difficult to place the responsibility where it belongs.

There is a black Percheron stallion at Clinton, Ill., imported in 1882, and at present owned by Joseph Fisher. Last year this horse was suffering with *maladie du coit*, and was bought by his present owner for \$300. Mr. Fisher has witnessed this disease in the "old country," and under his treatment the horse apparently convalesced, and this spring was advertised to stand for service, and was actually serving mares, although still suffering with the disease, when by order of the Live Stock Commission he was compelled to retire his horse into quarantine. This animal, when imported, was branded "D N" on the left side of the neck, and is believed by many to be the animal that brought the disease into this country.

It is not the custom in Illinois to brand their imported stallions, and we know that in Austria and Prussia (Fleming's Sanitary Science, vol. ii.) it is the custom to brand all stallions affected with *maladie du coit*, on the neck, so as to prevent their use as sires. If the Fisher stallion brought the disease from Europe in 1882, why is it that the disease received no attention until 1885?

A careful examination into the peculiarities of *maladie du coit* shows that a horse suffering with this disease may make an apparent recovery, and on returning to the stud have a recurrence of the malady brought on by excessive copulation. This may explain the lapse of time.

It is also claimed by some creditable horsemen of De Witt County, Ill., that the plague was brought from Texas. It appears that in 1885 a large number of mares were brought from Texas and stunted to the Percheron horses, and shortly afterwards the disease appeared among the stallions who served the mares. After much inquiring into this rumor, I am obliged to state that I don't believe it has any foundation in fact.

The first accounts we have in veterinary literature of *maladie*

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du coit comes from Prussia in 1796, although it is believed to have existed in southern Russia before that period.

In 1815, Woltersdorf observed it in Austria, and Haveman, Director of the Veterinary School of Hanover, observed it there in 1816. From this time we have accounts of its spread over the different countries of Europe. In 1847 it was reported in Algeria, by the French veterinarian, Signol, and who described it as an "Epizootic Paraplegia." He also mentions that the Arabs had long been acquainted with it.

In 1851 the disease was imported into France, and spread to thirty-one communes around Tarbes. It reappeared in this district again in 1856, and Dr. Trelut traced the origin of the disease in France to the importation of a stallion from Syria, where the disease prevailed. No records appear of the existence of this disease in Great Britain, Spain, Denmark or Italy.

During the past century many eminent pathologists of Europe have devoted considerable time to a study of *maladie du coit* as it appears among the horses there, and they have demonstrated its contagious character and the manner of its spread. The French have named the disease "*Maladie du Coit*," the Arabs call it "*El-Dourine*."

This disease is peculiar to solipeds—equine and asine; it is contagious, and is transmitted in the act of copulation. The disease presents both local symptoms, affecting the generative organs, and those of a general character affecting more or less every organ of the body, producing a state of marasmus and great emaciation. It affects the nerves to a marked degree, ending in paralysis of the posterior extremities prior to death.

Some authorities have imagined it to be allied to human syphilis, basing their supposition on the course of the local symptoms, some of the pathological alterations and their serious character. Recent experiments by able investigators have failed to reproduce human syphilis by inoculation in the mare. Therefore all stories about the transmission of syphilis from man to the mare may be dismissed, as they have no foundation.

Although able pathologists in Europe have been for years engaged in the study of *maladie du coit*, it is to be regretted that

our knowledge of this disease is very limited; the primary cause or causes are as obscure as the peculiar form of the disease. Numberless hypothesis have been advanced by scientific men to account for the origin of *maladie du coit*, but as yet the problem is unsolved. Prof. Roll, observing that the malady is only witnessed among breeding animals, and is propagated by coition, states that it is not yet positively ascertained whether it is primarily developed in the mare or horse or in both, but that the latter is the most likely, and it is possible that an abuse of the genital functions of the male and the existence of a vaginal catarrh in the female are its occasional causes. It is true that in admitting this mode of production, we cannot explain the specific action of the secretion observed in this disease, and which, according to certain authors, ought to be considered as analagous to that produced in human syphilis.

Strauss attributed its evolution to the crossing of breeds, and the artificial manner in which horses and mares were reared.

Rodloff gives, as a general cause, an atmospherical epizootic constitution, which gradually modifies the animal economy until the evolution of disease is possible. He believed that a hereditary tendency, a catarrhal condition, cutaneous eruptions betraying a lymphatic dyscrasy, are all so many predisposing causes. The determining causes in the two sexes he imagined to be too frequent copulation, causing local superexcitation of the generative organs.

Lafosse, commenting on the influence of cross breeding, mixture of races, migration, change of climate and the mingling of eastern blood, concludes that all these, and particularly the latter, have changed the constitution of the horse, so far as its diseases are concerned, and have prepared it for the evolution of new and unknown maladies.

Daumas mentions that the Arabs believed that the female ass contracts the disease through an abominable offence committed upon it by the Arabs suffering from syphilis, and who fancy that this odious practice will cure them.

All these theories have been disproved by actual experience of breeders of all classes of domestic animals, and experiments of

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able pathologists, and it leaves the origin of the disease involved in mystery. But we do know that if horses are imported from infected countries, sooner or later the disease will appear in healthy herds, where the malady was unknown until the introduction of diseased animals. Hence the great value and necessity of the enforcement of sanitary laws in countries where the disease is unknown, and permitting traffic with infected localities only under the most stringent rules and regulations, imposing a most rigid inspection by competent veterinarians.

Maladie du coit affects stallions and mares in two forms, viz., benignant and malignant.

In the mare the general symptoms in the benign form are often so trivial that they do not attract attention, usually appearing in from twenty-four hours to ten days after being put to the stallion. The animal is restless and stamps with the hind feet, whisks the tail from side to side, frequently stretches to micturate, but only voids a small quantity of urine at each attempt. It rubs the vulva with the root of the tail, and, if able to get near a wall, appears delighted to affrication this region against it; the clitoris is frequently erected, and there are all the signs of œstrum, so that the commencement of the disease is often mistaken for this condition; owing to its persistence, the mare is frequently sent to the stallion again. This unusual excitement of the genital organs should arouse suspicion, if the disease is known in the country.

The local symptoms consist, at first, in a heightened redness of the vaginal mucous membrane and tumefaction of the labia of the vulva, with the escape of a muco-purulent discharge therefrom. This discharge is at the beginning slight and serous, and merely renders the parts sticky; but it soon increases, becomes thick, viscid, and white, yellow or yellow-reddish in tint, concreting around the vaginal orifice, and soiling the perinerum and tail.

The mucous membrane of the vagina becomes of a deep or reddish-violet hue, and it and the vulva become the seat of œdematous infiltration, doughy and hard, which not only extends to the labia, but descends more or less in the perineal region. At this

time there appear on the mucous membrane of the vagina, vulva and clitoris, small miliary pustules, which soon become little superficial ulcers, no more than one-fifth of an inch in diameter. These ulcers are not long in cicatrizing, but they are replaced by others which, like the first crop, are more numerous in the fossa navicularis, on the clitoris, and near the margin of the vulva. These symptoms are intermittent, disappearing for some days and again manifesting themselves; in the majority of cases becoming milder, until they finally disappear.

In the malignant form in the mare we have the same symptoms as in the benign; uterine excitement, slight swelling of the lips of the vulva, redness of the mucous membrane, discharge, etc. After three or four weeks the symptoms become more accused; the tumefaction of the vulva increases and diminishes by turns; sometimes it remains limited to the labia and inferior commissure; at other times it descends in the perineal region to the mammæ; and at other times, again, it is unilateral, and gives a deformed appearance to the vulva.

The mucous membrane is red and swollen, with more or less deep colored patches and conspicuous wrinkles, and the miliary pustules and cicatrices already described; while the temperature of the vagina is increased.

On the external surface of the labia, the perineum and the inner face of the thighs, there are often ecchymatous lenticular pustules, which are succeeded by small circular sores that readily heal.

There is vaginal catarrh, the matter being viscid, glutinous, dirty white in appearance, and frequently possessing a strong odor. This discharge is increased after *coitus*, during fits of coughing, exercise, and the emission of urine, which it either precedes, accompanies or follows. It adheres to the hair, soils the tail, perineum, inner surface of the thighs and hocks, and, in drying, forms yellow or brownish crusts.

At a later period it is endowed with irritating properties, due to the presence of a free acid, and causes depilation of the coat at those parts it comes in contact with; then it changes its character, becoming thick, purulent, of a yellow or reddish color, and gives off a strong, disagreeable smell.

The mucous membrane of the vagina and the vulva is also modified, and assumes a marbled appearance; the labia open, and the hypertrophied clitoris appears in the inferior commissure, all having a lardaceous consistency; while the vaginal orifice, deformed and gaping, resembles the anus of an old horse.

Mares that have conceived usually abort towards the third or fourth month of gestation; though this action does not stay the progress of the malady. Should the full term of pregnancy be reached, the foal produced is dwarfed, badly formed, and either dead at birth or dies soon afterwards. The exceptions to this rule are rare.

The emission of urine gives rise to pruritis, and occasions uterine excitement at the commencement of the malady; as the latter progresses the urine becomes thicker and viscid, and charged with salts, which are deposited on the labia of the vulva, in the navicular fossa, and on the clitoris.

These local symptoms are not present in every case with the same intensity, the individual differences being often very great; it sometimes even happens that they are scarcely noticeable. The general symptoms appear in the following sequence: Emaciation, lameness, nervous derangement, paralysis and marasmus.

If recovery takes place, it is only in those cases in which the disease is little developed; then the morbid phenomena diminish, the wasting stops, the vigor returns, and the other symptoms quite, or nearly disappear; though there often remain paralysis of the labia of the vulva, with hypertrophy of the vaginal mucous membrane.

The recovery, which is rare, may take place after seven, eight or ten months, or even longer. Lafosse, in his experiments, saw a case recover after nineteen months' continuance.

The duration of the malignant form is extremely variable. Death has occurred in five months, a year, and even two years; but frequently before this interval has elapsed the animals are killed, or intercurrent maladies hasten the disease to a fatal termination.

Inflammation of the mammæ is frequent, terminating in supuration; also circumscribed inflammations of the skin. In weak

constitutioned animals there is often œdema of the abdomen, perineum and extremities. A flocculent discharge from the nostrils may also ensue, with tumefaction of the submaxillary glands, when the malady has continued for a considerable time; circular, flattened, but well defined swellings, one to two inches in diameter, may occur on the neck, shoulders, chest, abdomen or croup. These swellings persist for one or two weeks and gradually disappear, while others are developed elsewhere; their margin is the last to subside.

(*To be continued.*)

THE NATURE OF THE AMERICAN SWINE PLAGUE IN REGARD TO ITS PREVENTIVE TREATMENT BY VETERINARY POLICE AND HYGIENIC METHODS.

By FRANK S. BILLINGS, D.V.M.

Director of the Experiment Station and Laboratory of the University of Nebraska for the Study of Contagious and Infectious Animal Diseases.

[Read before the Massachusetts Veterinary Association by its Secretary, Dr. L. H. Howard.]

(*Continued from page 301*)

With regard to the "wild-seuche" of Germany, to which I have referred in a previous paper, Hueppe seems to be in a quandary, and to be all mixed up with regard to what is contagious and what infectious. He says: "It is a fact that the exanthematous, or cutaneous form, occurs as a purely contagious disease, and is transmitted from animal to animal."

Hueppe seems to have forgotten the above, however, when a few lines further on he says: "The exanthematous form is by no means so frequent, under natural conditions, as the pectoral, and the pathological phenomena go to show that the disease should generally be designated as an 'infectious pneumonia.'"

Those who have carefully read my paper upon the "Etiological Moment in American Swine Plague," must have become convinced of its very close resemblance to Hueppe's "wild-seuche." In fact, were we to assume that actual identity between two diseases, occurring in different localities, should be decided by the

morpho-biological peculiarities of the germs alone, under artificial conditions of development, or even by the microscopical lesions, one would be obliged to accept Hueppe's conclusion so far as the American swine plague and "wild-seuche" are concerned; but as I then demonstrated, this identity is absolutely contradicted by the clinical (or natural) disposition of the two diseases—the American being limited to swine, while the German attacks quite a number of species under natural conditions.

These diseases, like anthrax, black-leg, yellow fever, Texas fever, are primarily telluric diseases ("Bodenkrankheiten"); that is, diseases which have their primary origin in the earth; and again, no matter what effect they may have on animal life, it is the earth that becomes infected from such animals, and not other animals.

The idea that because such diseases can be, either accidentally or experimentally, transmitted to other animals, it constitutes them *contagious* diseases, is a patho-etiological absurdity, and the sooner we can drive this "miasmatic-contagious" humbug out of medical literature, the better it will be for our reputation as sane and logical thinkers.

Transmission by inoculation is simply a property that seems to be common to both contagious and infectious diseases, constituting them both, in such cases, "wound-infection diseases."

Contagious and infectious diseases, again, have much in common, in that in either case, when of a constitutional character, the respiratory tract seems to be the chief seat of primary entrance to the organism. Inoculation per accidental wounds is rare in either case, and more rare in contagious than in infectious diseases. Like the animal parasites, however, some of these diseases seem to have a special predilection, or better pathological affinity, for certain organs.

Hueppe's assertion that the "wild-seuche" is a *contagious exanthema* (wound-infection disease), in one place, and that under the same circumstances (natural infection) it "should generally be designated as an infectious pneumonia," is only an example of the absurd carelessness and want of logical understanding that rules in the medical profession. To get out of this muddle, we

must stick to it, that a contagious disease is one which has its primary origin within or upon an animal organism, and never outside of it. The manner of transmission is a matter of no importance whatever in deciding this question, so far as it has reference to any form of inoculation.

Contagious diseases are transmitted from organism to organism, both by direct and indirect (cohabitation) contact.

Infectious diseases infect the animal organism by its being exposed to a common cause in the surroundings. They are never transmitted from a diseased to a healthy organism directly, or by cohabitation, except by the accidental presence of some intermediate conveyance.

The diseased organism simply plays the part of a local conveyance (or center) of infection, which offers favorable conditions for the transitory development of the inficiens, but in which it never develops primarily.

Had we telleological views of life, we might say that the micro-organismal enemies of life selected that life to be the means of spreading the means to its own destruction, but I don't believe any such nonsense.

In order to make my meaning still more evident, we will turn our attention to that decidedly infectious and manifestly non-contagious disease, Texas fever, the twin-sister to the yellow fever of our own species.

Like the swine plague, this is a local—or telluric—disease, capable of being temporarily transmitted to our northern pastures by Texan cattle, but, unlike swine plague, it seems incapable of withstanding our northern winters, and hence it soon dies out.

The Texas cattle seem to have become acclimated to it, but are none the less dangerous to our northern pastures, though scarcely any symptoms of illness may be seen in them.

I repeat, infected Texans are not, in or of themselves, at all dangerous to more northern cattle. The latter may breathe the same air with them, even lick them, in fact may be only separated from the Texans by a wire fence, and remain healthy; but if we remove the Texans and put the natives on the same

field the former have been upon, then the natives begin to die.

That is about all we know of the nature of Texas fever, except the singular assertion that the land-infecting power dies out in passing through the organism of but one generation of northern cattle; that is, the infection is not extended by them. That question wants better proof.

Let us consider anthrax for a moment, because it more closely resembles the swine plague, and is not so regardful of our northern fields and herds.

Anthrax is the most acutely malignant of all the known infectious diseases, but fortunately it is so decidedly a fixed disease—it requires such peculiar combinations in the climatic and telluric conditions—that there is very little danger of its ever acquiring any such devastating extension over a country as its less exacting relatives, in this regard: the swine plague, Asiatic cholera, etc.

Black-leg is another rather exacting member of this group, but its demands in this respect differ again from those of anthrax and the other infectious diseases. While it requires suitable extra-organismal conditions for its support and development, unlike the others, it is very exacting about the intra-organismal; it is an exclusive and aristocratic black-leg—it selects only the fattest and best of the herd, and also selects the young and tender, instead of the older members.

The peculiar danger possessed by anthrax is to be sought in the tenacity of life of its germ when in a spore condition. There is no known vital object which can exceed these things in their resistance to all sorts of changes of temperature and other conditions.

During my visit to Sioux City, Ia., in July, 1886, to investigate a so-called "unknown disease," which proved to be anthrax, I took pains to examine the fresh manure from a cow that had been exposed for about half an hour to the temperature of the air. The rods were developing the dangerous, permanent spores in the most beautiful manner and with wonderful rapidity. By adding the least amount of water to the manure and placing some under the microscope, one could see this process going on better

than I ever saw it in a fluid cultivation. I consider these manure deposits from anthrax-diseased cattle a more serious source of immediate danger to other cattle than the buried cadaver. Under such circumstances as the above—temperature 98 to 100° F.,—this spore development continues day and night until the action of the sun has so dried the mass that it has not moisture enough to favor the development further. During this time flies light upon it, and may then bite the cattle. They may tread in it with wounds in their skin, and finally—which is the most dangerous of all—the mass becomes broken up and is reduced to dust, and millions of death-dealing germs are spread about the field.

(*To be continued.*)

COMPARATIVE LESIONS OF BRAIN WOUNDS.

BY DR. G. ARCHIE STOCKWELL, F.Z.S.

(Written especially for the AMERICAN VETERINARY REVIEW.)

(*Continued from page 307.*)

Careful consideration of the *facts* in evidence reveals that surgery is constantly invoked for the evacuation of purulent matter in regions of the economy where the ratio of mortality is considerably greater than has ever occurred to brain wounds; therefore it behooves us to inquire what anatomical or physiological peculiarity pertains to the nervous system that it alone should be especially exempt! We are no longer bound by the superstition that the ventricles are the "apartments," and the sinuses the "emunctories of the soul;" nor does the *festiche*, in scientific circles at least, yet gain credence that the cerebrum is the seat of organism, and each of its fragmentary portions the definite derivative of a function. Note the history of cranial injuries and the strenuous efforts put forth by Nature towards their repair—efforts so frequently successful despite the adverse prognosis of science. Recall the experiments of Dalton, as found in his text book of "*Physiology*," and the demonstration that the brain was but a part of the universal organism; that the removal of lobes in their entirety does not necessarily result in cessation of Life; that al-

most an entire cerebrum or cerebellum, or a goodly portion of the medulla oblongata, may yet be sacrificed and again reproduced! With such evidences, derived from vivisections of lower vertebrates, does it not appear that, so far as the cranial cavity is concerned, we have been wilfully blind and disreputably negligent?

Again medical literature abounds with examples both among the higher and lower ranks of Mammalia, wherein the cranial vault has been fractured or fissured in all conceivable localities; its walls broken down, comminuted, and large portions removed; arteries ruptured, meninges torn, sinuses opened, ventricles entered, and entire lobes of the cerebrum destroyed: yet recovery followed and the victims were enabled to return to their former walks of life, none the worse for the experience save perhaps in the one item of suffering. A file of one journal for forty years exhibits no less than *twenty-seven recoveries* of this class, yet not in a single instance, as far as discoverable, were the lessons heeded, nor were the circumstances commented upon in any other way than "*Extraordinary!*"

In studying perforating injuries of the cranial vault, whether the result of accident or experiment, the almost axiom is evolved (paradoxical as it may seem) that the more extended and severe the injury, the greater the prospects for recovery; that when the cranial walls are crushed and comminuted, and the brain subjected to *extensive* lacerations—that when the force procuring the injury has been sharp, rapid and incisive—a liberal prognosis may safely obtain!

Why is this? Simply because in such instances the bone is not given opportunity to equalize the force of the blow and thus transmit the vibrations thereof to parts remote from the seat of injury! It is the reverse of this that procures concussion and contusion, and these two are the most fatal of all factors connected with cranial and intra-dural traumatisms. Deliberated, ponderous blows of trifling momentum invariably secure concussion and contusion; a sharp instrument forcibly applied will produce less comminution than its duller fellow; the sand bag or club is more dangerous than the sabre and the axe; and the stone more fatal than the bullet!

The larger the perforating injury then—*within limits*—the greater is the opportunity of exit for lacerated and mangled tissues, and the *less* the chance for compression; a fragment or mere specula of bone, undetected or overlooked, has brought more than a few unfortunates to the grave; and in the avoidance of compression is found the secret of the wonderful recuperative powers sometimes exhibited after the brain has been desperately wounded, with lacerations so extensive as to be positively appalling!

1. On September 13th, 1848, Dr. Harlow, of Cavendish, Vermont, was called to see Phineas P. Gage, who, while engaged in blasting upon a line of railway, had a tamping iron (a form of "crow-bar") *weighing thirteen and one-fourth pounds, and three feet seven inches long by one and one-fourth inches in diameter*, driven completely through his head. The pointed end entered just beneath the left zygoma, the entire instrument escaping through an opening *three and one-half inches in diameter* at the junction of the frontal and saggatal sutures. The frontal and both parietal bones were fractured, as was also the floor of the left orbit, and the temporal portion of the sphenoid; * besides the lateral sinus was opened, the optic nerve severed and the eye forced from its socket; and the left anterior cerebral lobe traversed and almost wholly destroyed, considerable quantities of lacerated brain escaping on various occasions. As may be imagined, the prognosis was "*Fatal.*"

Nevertheless the man made a speedy and excellent recovery, and as Prof. Bigelow, of Boston (who was associated with Dr. Harlow in the case) informs me, was given to vociferously cursing his attendants because they had not restored the sight of the injured optic. Twelve years later he was following the occupation of omnibus driver in Valparaiso, South America, and was there seen by Dr. Henry Trevitt. Dr. Bigelow also declares that Gage, at

* Further particulars may be had by consulting the *Boston Medical and Surgical Journal*, vol. xxxix., p. 389; vol. lxiii., p. 327; and vol. lxxx., p. 116. Gage's skull is now in the Museum of Harvard Medical School, having been obtained after his death in California in 1869. An account also appears in *Amer. Jour. Med. Sciences* for July, 1850: Bryant, Gross, and other authors give it mention.

no time subsequent to the injury gave evidence of mental impairment. *During a lapse of nearly forty years this lesson has passed almost unheeded, save as a curiosity.*

The two following cases occurred in the practice of the father and uncle of the writer, and were matters of individual observation as a student; they are reproduced from notes that, along with the *breech-pin* in question, came into my hands on the death of the second physician, named Dr. Geo. B. Willson.

2. "June 4th, 1859. Dr. S. and myself were summoned to see S. W. B. a cabinet maker, age 22, wounded in the head by a circular saw. Found him at the shop where the accident occurred, and sitting on a chest unsupported and unaided, and perfectly rational. He volunteered the information that after adjusting a belt beneath the table, in the act of returning he brought his head in violent contact with the rapidly moving saw—a disk sixteen inches in diameter, one-fourth inch in set of teeth, revolving at the rate of 3,800 per minute. It was an affair of a second only; the impulse of the disk felled him to the floor, but he immediately recovered, backed out, rose, seated himself on the chest where we found him, and summoning a fellow workman dispatched him for surgical aid.

"Fifteen minutes may have elapsed between the receipt of the injury and our arrival. There had been considerable bleeding, judging from the clots of blood on his neck and the stains upon his clothing and the floor; but this had been controlled by a workman's apron tightly wrapped about the head. He denied any sense of pain save at the moment of coughing, which just began as he raised himself from the floor, and now was most persistent, dry and hacking.

On removing the cloth from his head a wound seven inches in length, above three inches in depth and corresponding to the "set" of the saw, was revealed, extending immediately across the sagittal suture and dividing the longitudinal sinus, falx and branches of the middle meningeal artery; beginning at the superior temporal ridge of the left parietal, it terminated on a level with the tip of the right ear. While coughing, each inspiration caused the brain to shrink from the skull, admitting air beneath the dura

that, with the expulsive effort, was mingled with blood and hurled to a distance of a yard or more.

"While cleansing the wound exteriorly, the cough ceased, but whether a spontaneous result or the effect of a quarter grain of morphia acetate administered dry upon the tongue a few moments before, I am not prepared to say. With a pocket-case grooved director the bone dust was removed from the interior of the wound as far as possible, by scraping both the brain walls and the bottom of the cavity; an abundance of crumbs buried in cerebral tissue were thus removed. Next the wound was closed save at its most dependent extremity, by laying within a folded and oiled piece of chamois skin; the whole afterwards covered with adhesive strips; when the patient was conveyed to his home in a carriage and placed in bed in a cool room."

To avoid prolixity I will merely add that the head was dressed at intervals of one to four days, as required, during a period of six weeks, and soon after the man resumed work in the shop. At no time did he suffer any pain, and the sum total of medication, aside from the morphia above noted, was a *half seidlitz powder*. Shock was appreciably less than where muscular tissues are involved, and this I have observed to be true generally of all open and fully incised brain wounds. Two years after the accident the man removed to Canada and all trace of him was lost, though I was recently informed that he yet lived, preserved excellent health and in full possession of all his senses and faculties.*

*In the *North American Medico-Chirurgical Review* for January, 1858, I find an almost parallel case reported by Dr. Ellerslie Wallace of Philadelphia. The wound, inflicted by a circular saw, was four and a half inches in length by one-fourth in width, and extended horizontally across the skull along the coronal suture, lacerating the brain and dividing the longitudinal sinus. The patient, a girl ten years of age or thereabout, recovered without a single untoward symptom.

(To be continued.)

MALADIE DU COÏT.—It is stated that the number of mares and stallions now in quarantine in this State on account of the disease known as *maladie du coït*, is over 200.

HOG CHOLERA AND SWINE PLAGUE—THEIR NATURE AND PREVENTION.*

BY D. E. SALMON.

Investigation of several years led me to conclude that a micrococcus or spherical microbe was constantly found in hog cholera. In 1886, contrary to the above, I stated that hog cholera was caused by a bacterium or short rod-shaped germ very distinct from the above micrococcus. This bacterium produces this disease even when cultures are fed to healthy swine. In connection with this germ a micrococcus resembling the fowl cholera germ was occasionally met with, which produced fatal effects when cultivated and inoculated upon mice, rabbits, guinea-pigs, pigeons, fowls and swine.

In cases where the micrococcus was not accompanied with hog cholera bacterium, the lesions were distinct and easily distinguished from this disease. The lungs were sometimes more or less adherent to the thoracic walls, were hepatized, friable, the alveoli were distended with a whitish cellular exudate, and there were occasionally patches of necrosed tissue. The liver was often in cirrhosis condition, leading to jaundice. In hog cholera the lung lesions are very different, and usually are absent, but when present generally consist of an extravasation of blood into the tissues and alveoli of one or more lobules, but hepatization is very rare, and a secondary result seems to follow the hemorrhage. Hog cholera is noticeable from numerous ulcers and enormous ulcerated patches in the large intestines.

Though the lesions are very different in these two maladies, the reason that this has not been noted before is probably owing to the complicated affection, the two diseases frequently existing at the same time in the animal. The complicated trouble has been considered the typical hog cholera, while each malady existing alone has been regarded as a variation from the typical form. The contagious pneumonia in the future I shall call swine-plague; the other disease hog cholera.

*Abstract from paper read before the Soc. for the Promotion of Ag. Science Aug. 9, 1887.

The hog cholera microbe is short and rod-shaped; in the tissues it stains almost uniformly around the periphery, and shows an unstained central portion. The swine-plague microbe is a shorter oval, and stains at the ends with an unstained band across the central portion. The former is very motile in liquid cultures, while the latter has no independent motion whatever. Hog cholera germs grow actively on the cut surface of potatoes, producing a colony of a brownish color; the swine-plague germ does not grow at all upon potato. The former retains its vitality for from thirty to sixty days after being thoroughly dried; the latter perishes under similar conditions within about three days. Hog cholera germ is capable of active multiplication in drinking water, and retains its vitality in such for at least four months; swine plague germ is unable to multiply in water and the added germs die within ten days. Cultivated germs of the latter administered hypodermically in large quantity kill pigeons and pigs, while hog cholera germs occur abundantly in the internal organs in either. We have never killed fowls by inoculation with hog cholera germs, but large doses of swine-plague produce fatal results. A very intense and fatal form of hog cholera is produced by feeding cultures of the microbe to pigs which have been without food for twenty-four hours, but cultures of the swine-plague germ fed under identical conditions produce no effect whatever.

It has been demonstrated satisfactorily that hog cholera germ is able to and does habitually reproduce and preserve itself indefinitely in moist soil, manure, stagnant water and even in a good quality of drinking water, and these are probably largely the means of its dissemination. In the pig's stomach taken from these sources it produces a fatal form of disease. In view of these facts experiments were undertaken to discover a means of disinfection to be applied to soils, etc., without danger of injuring the animals. Interesting results were secured from using lime, that may be summarized as follows:

The cultivated germ placed in water to which was added one-third its volume of lime water, was killed in one-half hour. If one sixth of the volume of lime-water was added the germ died within three hours. If lime-water contains 0.12 per cent. of lime,

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then 0.03 per cent. in solution destroys the germ in one-half hour, and 0.019 per cent. destroys it in three hours.

As the quantity of disinfectant required must be increased with the proportion of organic matter present in the substance to be disinfected, it was desirable to test the effect of lime in the presence of large quantities of organic matter. Replacing pure water with beef infusion it was found that, in order to destroy germs placed in this it was necessary to add one and one-half its volume of lime water, and then some were alive at the end of four hours, but all were dead within twenty-seven hours. With twice its volume of lime-water the germs were all destroyed within four hours. That is .072 per cent. of lime killed the germ in twenty-seven hours, and 0.08 per cent. in four hours; and it required from two and one-half to four times as much lime in solution to destroy the germ in beef broth as in pure water.

These results caused us to test the power of lime to destroy the germs in mixtures containing relatively large quantities of organic matter. This mixture was made by soaking chopped beef over night in twice its weight of water, removing the liquid with a press, neutralizing, adding the white of one egg to each 600 c.c. of liquid and boiling. The flasks containing the mixture showed a layer of solid particles on the bottom nearly as deep as the liquid above it. These flasks were sterilized, inoculated with the microbe of hog cholera, and at the end of three days when each drop contained nearly a million germs, milk of lime containing 10 per cent. of lime, was added in various proportions and the vitality of the germ was tested after the lapse of a certain number of hours. Five cubic centimetres of milk of lime in 150 c.c. of the beef mixture destroyed all the germs within one-half hour; equivalent to 0.32 per cent. of lime.

The result of an experiment to determine the effect of powdered lime upon the germs in a mixture similar to the above last noted, demonstrated that one per cent. of lime killed all of the microbes in one hour, and that one-fourth of one per cent. killed them all in four hours.

If a cubic foot of soil weighs 80 lbs. and a bushel of lime 80 lbs., then 55 bushels of lime thoroughly incorporated with the soil

on an acre of ground to the depth of six inches would not only be sufficient to prevent the growth of this germ, but would destroy it after it had gained a lodgment. The various measures of disinfection must for a long time be our chief reliance in combating this disease.

AMERICAN VETERINARY COLLEGE.

HOSPITAL DEPARTMENT.

THE PROPER PLACE FOR HYPODERMIC INJECTION.

By DR. J. HUELSEN, JR., House Surgeon.

In the use of the hypodermic syringe, besides the ordinary care as to cleanliness, condition of solution, etc., the situation of injections oftentimes should also receive attention, as the following case will illustrate. A bay gelding, 16 hands, 9 years, exhibited symptoms of spasmodic colic early on the morning of Oct. 5th. A practitioner was hurriedly called, who used a solution of morphine, selecting the right side of the neck, lower portion, as the point of hypodermic injection. In the afternoon slight colicky pains still continuing, the patient was brought to the hospital, and with exhibition of antispasmodics internally, toward evening all pains subsided. A slight constipation remained as sequel which, however, soon disappeared. The next day, the 7th, the patient was considered ready for work, with the owner anxious to use him; but on examining the neck, a soft tumor was discovered where the syringe had been used—an abscess had developed—and this was opened on the 8th of October, with quite a discharge of pus. Up to date (Oct. 20th) the parts are not yet healed, the discharge, although much less, still continuing; and from the situation of the wound, interfering with the use of the animal for this length of time.

It will be seen, therefore, in cases of spasmodic colic, which are likely to be of short duration, as a precaution against similar results, that the abdominal region would be a good place to inject. This would be preferable, not only as being nearer the point of pain, but also in case of complication, obviating vexatious delay, as in the case cited.

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MELANOTIC TUMOR OF THE TAIL IN A BAY HORSE.

By the Same.

A bay gelding, 15-1 hands, and about 17 years of age, was brought to the free clinic on Sept. 26th, for treatment of a "lump on the tail." This, the owner stated, had twice been removed; once by excision with the knife, and again by caustics, and each time had again appeared. On examination it was found to be one of the rare case of melanosis in a *bay* horse, being situated laterally near the base of the tail, somewhat round, about two and one-half inches in diameter and without pedicle. None others could be found externally on any other portion of the body. At the owner's desire, it was determined to remove the tumor, but without much hope of permanent eradication. An elastic ligature was applied at its base, which, at the end of a few days, had cut through, leaving a wound about two inches in diameter. This was canterized with nitrate of silver and simple dressing applied. At the next clinic day a small portion of sloughing tissue was removed from the wound, leaving a healthy granulating surface. The animal has attended every clinic day since then, the granulations being controlled by nitrate of silver and dressed with oakum, saturated with carbolic solution and bandage. At the present time a small, healthy granulating surface remains, and contrary to expectation, there is every indication of a permanent disappearance of the trouble.

In the removal of similar small tumors, such as epithelioma, or extra scrotal champignon, we can commend the use of the elastic ligature, which often seems to have a marked result in its deep action, and where possible, permanent relief often obtained.

The principal interest in this case is the fact of the presence of this kind of tumor (melanotic) in a bay horse, where they are not commonly found.

ENTROPION IN A DOG.

By the Same.

An English mastiff suffering with this trouble was brought to the hospital on Oct. 4th, for treatment. About one-third of each

eyelid, towards the inner canthus, was inverted on the eyeball, and the constant irritation had induced a chronic conjunctivitis, this condition having now existed for about five weeks. An operation being necessary, Dr. Pomeroy kindly tendered his services. The operation was a simple one, the animal being placed under the influence of ether, on Oct. 8th, and the diseased border of each lid trimmed off with a small pair of curved scissors, so as to allow the lids to adapt themselves naturally together. The portion removed on each was nearly one-half inch long and about one-fourth inch wide. Since then the wound is healing favorably; the treatment being simply to keep clean and the animal is apparently relieved of all cause of trouble.

RUPTURE OF PERINEUM IN A MARE.

By DR. W. CURRY, House Surgeon.

I have never yet seen in print a record of a case of this kind and from good authority learn that there are none recorded, probably due to the fact of uniformly bad, or unfavorable results.

Were the lacerations confined to the perineum proper I see no reasons why they should not heal rapidly enough, but such cases are exceedingly rare. Rupture of the perineum must necessarily mean more or less extensive lacerations of roof of vagina and floor of rectum. Now no matter how closely or how well the torn edges of rectum are adapted to each other, where the fœces collect there—and they have more opportunity to collect on account of lost expelling power of this portion of the rectum—away go your sutures; and should they fortunately hold for a time—the process of healing is so much interfered with by the collection of fœces, that the sutures become macerated, partly absorbed, and finally give way entirely before the edges have had time to unite. This difficulty might be overcome by using silver wire, but this must be so fine in order to introduce at all that it readily cuts through the edges.

The subject of which I write, was a brown mare, ten years of age, fifteen hands two inches high, and was admitted to the hospital on Saturday Sept. 24th, 1887; the following is the history: Sept. 16th,

during the act of parturition, one fore-foot of foetus caught in the floor of vagina—the leg flexed sufficiently to allow the other fore-foot and head to protrude from the vulva. The attendant (a layman) seeing that the mare could not further deliver herself, went to her assistance, and by combined efforts of man and mare, parturition was completed and perineum ruptured. A veterinarian was immediately called, who united the torn edges of perineum with cat-gut sutures, which tore out in course of three or four days, and on date above mentioned mare and colt were sent to the hospital. On examination next morning found rupture not only of perineum proper, but of floor of rectum, roof of vagina and intermediate cellular tissue, extending nearly to cervix. The torn edges had retracted to either side and the cellular was much infiltrated and swollen, so that on each side of cavity—between edges of rectum and vagina—there was an extensive granulating surface, about eight inches long by two inches in width at anterior border, and external or posterior border (which presented space from anus to superior commissure of vulva), of about three inches. An operation was performed more to satisfy the owner than anything else, in the following manner: The cavity was dilated by assistants, with large flat-bladed tenaculums, sufficiently for the operator to introduce his hand and pass suture through floor of uninjured rectum. One end of this suture was then passed through torn edge of rectum, on one side, about two inches posterior to uninjured portion, and the other end through opposite edge at point corresponding to first; before securing this another suture was passed on each side through the edges of rectum at or near first and also through the edges of vagina directly underneath; both sutures were then drawn tight and secured. By this means the uninjured portion of rectum was drawn posteriorly about ten inches and secured. Three more interrupted sutures were placed in the roof of vagina and one in rectum near anus and three in perineum. The mare and colt were put in a large box stall and fed on milk, oatmeal and bran during the day.

Sept. 27th.—This morning found sutures, excepting first two all, given way—untied—and the parts much more swollen. Decided to make one more attempt, so the stitches were renewed and se-

cured by three or four knots each. During the night she had passed but little fœces and these were quite hard. To avoid as much as possible, the fœces collecting in rectum, gave frequent injections of warm suds. Fed same as yesterday.

Sept. 28th.—Sutures remain intact. Passed some fœces—a little softened—during the night, but nothing more during the day. Appetite good and temperature, pulse, and respiration, normal. Continued injections and same food.

Sept. 29th.—Found this morning that the fœces were collecting in rectum and being forced through into vagina. As the edges could not possibly unite under such circumstances, the sutures were all removed and we found, after their removal, that not the slightest adhesion had taken place. After this the parts were simply kept clean and on October 5th, when the mare went home, the mucous membrane of rectum and vagina had very nearly united, a very narrow granulating surface remaining—thus making one large common opening.

REPORTS OF CASES.

AN EXTENSIVE OUTBREAK OF ANTHRAX WITH GREAT VARIATION OF SYMPTOMS AND THE REMARKABLE EFFECTS OF POTASH, CHLORATE AND ACID CARBOLIC AS A PREVENTIVE AND CURATIVE AGENT.

By J. DUTOLIFFE, V.S. of Middletown, N. Y.

During the past two months my attention has been called to the outbreak of splenic apoplexy among eight herd of milch cows—a total of 167 cows—also a number of calves and one horse, causing a loss of twenty-one cows, four bulls, two calves and one horse. The first notice I had of it was early in August on a farm owned by Mr. Walling, near Hampton, owner of sixty cows. A self-styled veterinary surgeon had been called in on the day the first cow showed symptoms (three days previous to my being called). Diagnosis: Hollow horn and nails in stomach. Up to the time of my arrival (about 9 p. m. Aug. 10) seven cows had died. I examined five cows, which were in a stable, suffering from the disease. Diagnosis: Splenic apoplexy. I ordered the

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remainder of the milch cows, thirty-two in number, brought to the barn for examination. Sixteen dry cows that had not been in contact with these cows, and pastured about one-eighth of a mile distance, were not examined until morning. On examining the thirty-two cows, only one had a temperature below 102; temperature ranged from 102 to 108. The following table will show the temperature of the worst cases with the great variation of temperature during twenty-four hours:

Aug.	10	11	12	13	14	15	16
Case.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
1	5	4	99 $\frac{3}{4}$	2 $\frac{1}{2}$	1	1	
2	5	5	105	2	1 $\frac{1}{2}$	1	
3	6	5 $\frac{1}{2}$	2 $\frac{1}{2}$	100	99	100	
4	5 $\frac{1}{2}$	4	97	1 $\frac{1}{2}$	99	98	
5	7	6	2 $\frac{1}{2}$	1 $\frac{1}{2}$	1	98	
6	4	4	3	4	2	1	
7	4	3 $\frac{1}{2}$	98 $\frac{1}{2}$	2	4	7	8 8 6 4 2 2 1
8	8	6	4	4	3	2	
9	4	4	2	1 $\frac{1}{2}$	100	99	
10	5 $\frac{1}{2}$	Dead,					
11	6 $\frac{1}{2}$						
12	7	6	1 $\frac{1}{2}$	2 $\frac{1}{2}$	2	1	

In the above it will be seen I have generally put down the fraction only, omitting the 100.

Symptoms in both the cases where the temperature was 108° were, loss of appetite, inclined to lie down, difficult breathing, back-ache and tenderness over loins.

In some of the other cases there was diarrhœa with large quantities of blood; areolar tissue of the back and sides crepitous to the touch had the appearance of being inflated with air; urinary organs and nervous system appeared normal in this herd.

Secretion of milk diminished.

Treatment

R Pot. Chl. 3 iv.

Acid. Cab. M. xx.

Aqua. 3 viii.

to the worst cases three times a day. Mild cases and all exposed cattle twice a day for ten days.

Two or three that were inclined to lie down received whiskey twice a day. For diarrhœa one quart of starch gruel twice or three times a day, according to severity of symptoms, with plumbi acet. 3j twice daily where there was any blood with the fœces.

The stables were frequently fumigated with sulphur and charcoal burnt in pans.

Prognosis of five cases fatal; on the others guarded.

After examining and making notes, administering medicine etc., I left at 3 p. m., returning at 7 a. m. Aug. 11; case No. 10 and 11 dead.

Held post-mortem.

From this date on they all improved. Aug. 20th, all discharged.

The dry cows were examined on the 11th, all well.

Aug. 30th, I was called again. One of the dry cows that appeared well in the forenoon, was found dead about 6 p. m. On examination five of these were sick; all received the pot. chl. and acid. carb., including those that did not show symptoms. All recovered. Recommended horses to have the same treatment.

Sept. 2d, called at 6 a. m. to see a two year old colt, supposed to have distemper (strangles) having begun to swell in sub-maxillary space on the evening previous. When I arrived at 10 a. m. found colt was dead.

This colt had run with the dry cows until the 30th inst. Only one dose of medicine had been given to the colt. No animal died on this farm after receiving two doses of medicine.

There are four or five farms adjoining this one, on two of which the cattle were put under a course of treatment. None of the cows on these two farms showed any symptoms. On one of the other farms, three cows died; the remainder were then put under treatment, one of which had a temperature of 107°, all recovered. The next place it made its appearance was about one mile from the first farm; two cows and one bull died suddenly; twenty-seven were put under treatment and all recovered.

Another adjoining farmer lost two.

The other outbreaks were as follows:

Seven miles from the above place, one cow dead and one sick on my arrival. Put eight cows under treatment and all survived. My next call was in Sullivan Co., town of Liberty, where I found three dead steers, two yearlings, one two year old, another two year old sick, also five heifers from two to four years old. Same treatment and all recovered.

Another case of importance came to my attention Aug. 22d. Messrs. Bartholof and Crawford, two well to do farmers and owners of large dairies, Mr. B. owning about 150 cows and Mr. C. forty-five, went to Buffalo stock yards and purchased forty-four cows, new milkers and springers. On their arrival here one of the cows could not be made to rise in the car and was taken home in a wagon; the following day it died. The cows were divided, each taking half. Three days later Mr. C. lost one suddenly, supposed by him to have died from impaction of stomach. Another cow died suddenly three days later. The next day I was called to hold the post-mortem. On examining the other cows, I found two that were passing a large amount of bloody urine, urinating frequently, stiff gait and not inclined to move, and the remainder of the new cows all showing symptoms of splenic apoplexy, resembling those on the farm of Mr. Walling, with the exception that there were no passages of blood per rectum, or diarrhœa in any of these cases, but large amounts of bloody urine, which symptoms were absent in all of the other cases except those of Mr. Bartholof which were shipped with these cows. Mr. C. informed me that the last cow that died passed a large amount of bloody urine, so I directed my attention to examining the kidneys, which I found almost as black as melanosis, very much enlarged and easily broken down between the fingers. These cows were all noticed to urinate frequently and in large quantities. Treatment the same, pot. chl. and acid carb. The kidney complication was a new one to me, and I was at a loss to know what to prescribe in addition to the above, as the pulse was very weak. I did not think I would get any benefit from aconite, I was afraid of cathartics setting up internal complications; therefore I resorted to perchloride of iron and linseed gruel. These two cows both died. I held post-mortem immediately after death: the kidneys were about the same as in the aforementioned one.

A calf from one of these cows, which survived, was taken away from its mother as soon as dropped, and fed on the milk from some of the old stock cows. Three days after it had a temperature of 106°. I killed this calf and found spots of ecchymosis on the spleen, it being also congested and broken down at lower extremity.

The new cows were allowed to run with the old ones one week before I was called, and none of them showed symptoms of the disease, but were all put under treatment; the only animals that died after my arrival were the two above mentioned.

On the farm of Mr. B. the cows appeared about the same, with the exception of his having a number of calves from two or three days to thirty days old, which all showed symptoms of the disease; one that died, that was about four weeks old, on post-mortem examination revealed enlargement of the spleen to fully three times that of a full grown cow; it was as large as any that I found in the cows. Mr. B. also lost two cows with symptoms the same as those of Mr. C., making a total of seven cows and one calf that died out of the forty-four.

It will be seen by the above that no animal died after receiving two doses of the medicine, except the four that died with the kidney complication; also that no animal that had received it as a preventive showed any symptoms of it.

The question arose in my mind, What caused the kidney complication with absence of bowel complication, among the one drove while in all the others it was *visa versa*. I thought that it might have possibly been due to the difference in the food, but I was unable to find out on what kind of food these forty-four cattle had been fed previous to being shipped.

Can any of the readers of the REVIEW throw any light on this subject? If so I would be pleased to hear from them.

Another peculiarity in these cases is the sudden fall of the temperature.

EXTRACTS FROM FOREIGN JOURNALS.

SPLENIC HYPERTROPHY.

BY MESSRS. BOWRET AND DRUILLE.

A strong, vigorous horse, aged 13 years, which had never been sick before, was found one morning, by the man who had the care of him, dull and anxious-looking, and manifesting some slight colic. An hour later he fell down heavily, and it was only with the greatest difficulty that he was placed on his feet again. His walking then became difficult, the anterior legs moving quite

regularly, but the hinder, especially the right, seeming paralyzed. Venesection, practiced at the jugular, brought at first a flow of very dark blood, which escaped slowly, and soon ceased spontaneously, almost completely. Opening the caudal or saphena blood-vessels gave no better result. Lying down, the animal struggled, without great force; the skin was covered with cold sweat; the mucous membranes were highly congested, and of a dark wine color; the pulse scarcely perceptible; the artery small and soft; respiration deep and accelerating; temperature, 36° C.; paralysis rapidly progressing. Death occurred in the evening, about ten hours after the appearance of the first symptoms, notwithstanding the attempt at treatment, which consisted of strong dry frictions, with irritating and blistering applications, and injections of bromide of potassium, increased from one drachm to one ounce every two hours.

At the post-mortem the organs of the thoracic cavity were comparatively normal, but on opening the abdominal cavity a large bluish mass made its appearance. It was the spleen, in form about the same as in the normal state. The posterior border was thickened; the anterior presented a deep groove, where the blood-vessels and nerves are lodged, and the point was considerably thickened. The whole organ weighed *forty-two pounds*. Cutting in various directions revealed no trace of inflammation; there was no abscess, no cysts, no parasites. All the other organs were healthy.

The author asks if this hypertrophy took place suddenly, when the animal presented the first symptoms, or if it was the effect of a gradual change. He inclines to the latter, because of the abnormal density of the tissue and its resistance to the edge of sharp instruments.—*Recueil de Med. Vet.*

SALIVARY FISTULA OF WARTHON'S DUCT IN THE DOG.

By M. BRISSOT.

For three or four days the under-jaw of the dog was continually moist, though notwithstanding the pain and the annoyance produced by the disease, he continued to eat well. Though the region had been well oiled, the hairs were sticky with the discharge. At first the animal seemed to be suffering with a local

eczema, but when the skin was cleaned and the hair cut off, a different diagnosis was easily made.

At the inferior border of the parotid region a small opening appeared, from which, drop by drop, a transparent, somewhat sticky fluid was escaping; it was the saliva. The case was one of the salivary fistula of Warthon.

Having previously obtained good results from the use of pure liquid plenic acid in the treatment of synovial fistula, the author decided to employ the same treatment in this case, and with a directory introduced a few drops of the acid through the open mouth of the canal. The result was very satisfactory, the flow having stopped on the day following, by an œdematous swelling around the opening. The appetite of the animal did not seem to have been interfered with. Three days later the dog was entirely cured.—*Recueil de Med. Vet.*

A CASE OF URETHRAL FISTULA IN THE DOG, AFTER THE AMPUTATION OF THE PENIS.

By M. MOUSSU.

Excited by the presence of a bitch in heat, a dog, heating, copulated with her and becoming *attached* to her in the usual way, the owner of the female, maddened by the act of the dog, separated them by a blow of a scythe. The punishment of this amatory transgression was terrible for the poor dog. Bleeding profusely and suffering excessively, he ran to his home, and Mr. Moussu was immediately called. When he arrived the dog was much weakened and prostrated, and death by hæmorrhage seemed rapidly approaching. No indication presenting itself except that of stopping the hæmorrhage, this was done, and the animal made a comparatively good recovery, as he lived some five years longer.

When the post-mortem was made, no external appearances revealed the mutilation he had suffered; but a complete dissection showed that the penis represented only a stump, about two centimetres in length, rounded at its end and without any urethral opening; but the perineal region, a little above the ischiatic arch, showed a urethral fistula, entirely concealed by the hair.

At first, while the animal was still suffering, he had submitted to treatment, but after a few days, when he began to improve, he

rebelled against the introduction of a probe that would keep the urethra open. The result was that it soon closed, and urethrotomy had to be performed, and as the skin and urethral mucous membrane soon became united together, the function of micturition was performed with comparative ease.—*Recueil de Med. Vet.*

THREE CASES OF FATAL PLEURISY OF AN APPARENTLY CONTAGIOUS NATURE.

By MR. E. HUMBERT.

First Case.—A mare, "Helepole," 8 years old, suffered a sprain of the fetlock, for which she was fired with fine and penetrating points.

Three days later she became sick and refused her food. Her respiration was accelerated, extremities cold, nostrils dilated, and her temperature reached 40.5° C. The next day the symptoms were more marked, and there was evidence, well developed, of an attack of acute pleurisy. Among the symptoms present, a somewhat abundant nasal hæmorrhage showed itself at the beginning, and lasted forty-eight hours. She died on the fifth day.

At the post-mortem the chest contained ten quarts of reddish fluid, and a large quantity of false membranes.

Second Case.—Three months later, another mare, 10 years old, received a kick on the left fore-arm, and was placed for treatment in the same stall in which the first mare had died. Having recovered from her injury, she was about to be discharged, when, ten days later, she suddenly refused her food. She had chills, her body became cold, her ears were covered with a cold sweat, the respiration was accelerated, and her temperature rose to 40.6° C.

The next day the respiration had still risen and had become abdominal, the nostrils were covered with a flow of blood, and auscultation, percussion and every other sign proved her ailment to be pleurisy. She died the fifteenth day after the attack.

The autopsy confirmed the diagnosis.

Third Case.—A horse, "Empereur," 9 years old, was fired on the off fore-leg and placed in the same stall which had been occupied by the two preceding. The next day he presented the same symptoms which had appeared in the second case, and not-

withstanding a course of severe treatment, died on the sixth day afterwards.

Post-mortem inspection revealed the same troubles. From that day the stall was thoroughly disinfected, and since then no more cases have occurred amongst the animals that have occupied it.

In the presence of the idea of the contagious nature of pneumonia, do not these three cases suggest the reasonableness of a similar condition existing in respect to pleurisy?—*Recueil de Med. Vet.*

REVIEWS AND NOTICES.

PHYSICIANS' VISITING LIST.

The "custom of the season" with publishing houses of issuing "Physicians' Visiting Lists" has brought to us one which we might correctly call an old friend, having used it for many years. It is that published by P. Blakiston, Son & Co., of Philadelphia. We have found it "very handy to have," and especially as the more complicated work of book-keeping can be dispensed with to a great extent by its use. On that account we can fully recommend it to veterinarians.

Another style, new to us, published by G. S. Davis, of Detroit, Michigan, is offered to us by our friend and correspondent, Dr. G. A. Stockwell, of Port Huron. It is brought out in very good form, and the numerous subjects which it comprises must render it a decidedly useful companion and aid to the busy practitioner.

DISEASES OF THE OX. By J. H. STEEL, M.R.C.V.S. Second Edition. Longman, Green & Co., London.

Only five years ago Professor J. H. Steel issued the first edition of his "Diseases of the Ox," and yet to-day the second edition, with much new matter added, is offered to the veterinary student and practitioner.

The time is gone by when the subject of bovine pathology could be ignored in veterinary literature, though we may yet remember the good works of Youatt, Clater and others. They have done good service, but are no longer capable of supplying

the needs of the student of to-day in that specialty. The progress which has been accomplished in this particular department of practice has left them far in arrears of present requirements. The student will therefore warmly welcome the new and enlarged edition of "Diseases of the Ox."

In this new work Professor Steel discusses, in eleven chapters and three appendices, all the diseases to which the large ruminants are liable, and every chapter is prepared equally in the clear and lucid literary style characteristic of the author. But among them all, the second chapter, with its two sections, has proved to us the most interesting. Treating of diseases of the blood, it comprehends all the contagious diseases of cattle, with their mode of treatment and of prophylaxy, treating incidentally the various subjects of vaccination and inoculation, in the consideration of which the labors and experiments of Willems, Pasteur, Cornevin, Arloing and others, are made familiar to the reader.

"Diseases of the Ox" forms a handsome volume of over 500 well-printed pages. It is illustrated by over 100 good wood-cuts, and contains at the end a bibliography of cattle pathology in the English language, which shows on the part of the author a most thorough acquaintance with the literature of the subject.

Prof. J. H. Steel is already well known for the numerous writings for which English speaking people have become his debtors, and now, with this new edition of "Diseases of the Ox," he has filled, for many years to come, a want which everyone must have felt when a desire or need of information or research has occurred in general practice.

VETERINARY APPOINTMENTS.

Dr. S. K. Johnston, D.V.S., has been appointed Veterinary Surgeon to the Board of Health of the city of New York, after a successful examination according to the requirements of the Civil Service law.

Dr. W. Lowe, D.V.S., already State Veterinary Inspector for the State of New Jersey, has been recently appointed Superintendent of the United States Cattle Quarantine at Garfield.

OBITUARY.

ETIENNE DESIRE EDOUARD CHAMBON, graduated at Alfort, died recently in Jersey City, where he had been practicing for a number of years.

Born in France, Dr. Chambon entered the School of Alfort in 1865, and during his studies received a first prize at the end of each year. He graduated in 1869, and after remaining a few years in Paris, removed to America.

CORRESPONDENCE.

VETERINARY SCHOOL OF BERLIN, A HIGH SCHOOL.

Dear Sir:

October, 15, 1887.

I read in the October number of the "AMERICAN VETERINARY REVIEW" under the rubric: Grand example from America followed in Europe; the elevation, by imperial decree, of the Veterinary School, at Berlin, to the rank of University—and the reporter in conclusive viewing, speaks of this fact as—highly flattering of the American view of the estimation to which veterinary science is entitled to, the Imperial Government of Germany has merely followed an established American precedent, etc.

I beg to state that this a great mistake. Long before America has had universities of European character, there have been faculties for veterinary science at several German universities, viz: Göttinger, Giessen, etc., and the writer has been a veterinary student and—*civis academicus*—of the university at Geissen with full academic privileges.

I believe the mistaken is a faulty translation. Firstly, a university can logically be only a community of all sciences; and secondly, the German Imperial decree say: Hochschule—high school. There is, indeed, a great difference in the definition of a German and American high school, but in Germany the veterinary school is raised by virtue of this title to the highest dignity.

Properly speaking every possible way in the studies at the German veterinary schools has anciently been equal to academic forms and the new mode is a mere advantage to the administration of those institutes, than anything else. Nevertheless the veterinary profession of Germany is yet arrived at the highest pitch of honor. You would greatly oblige me by publishing this explication.

Very truly,

O. SCHWARTZKOPFF, V.M.D., U. S. Army.

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